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**United States Patent** [19]**Lifson**[11] **Patent Number:** **6,047,556**[45] **Date of Patent:** **Apr. 11, 2000**[54] **PULSED FLOW FOR CAPACITY CONTROL**[75] Inventor: **Alexander Lifson**, Manlius, N.Y.[73] Assignee: **Carrier Corporation**, Syracuse, N.Y.

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[21] Appl. No.: **08/986,447**[22] Filed: **Dec. 8, 1997**[51] Int. Cl.<sup>7</sup> ..... **F25B 3/00**[52] U.S. Cl. .... **62/196.2; 62/196.4; 62/217;**  
62/513; 251/129.05[58] Field of Search ..... 62/196.2-196.4,  
62/217, 513; 251/129.05[56] **References Cited****U.S. PATENT DOCUMENTS**

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*Primary Examiner*—Henry Bennett*Assistant Examiner*—Marc Norman[57] **ABSTRACT**

Step control in capacity modulation of a refrigeration or air conditioning circuit is achieved by rapidly cycling a solenoid valve in the suction line, economizer circuit or in a bypass with the percent of "open" time for the valve regulating the rate of flow therethrough. A common port in the compressor is used for economizer flow and for bypass.

**3 Claims, 1 Drawing Sheet**